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ABSTRACT

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DEFINITION OF THE SITUATION AND OBSERVER BIAS

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Abstract

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DEFINITION OF THE SITUATION AND OBSERVER BIAS

Robert Rosenthal's research concerning experimenter effects or the unintended effects an experimenter has on the results of his experiment has stimulated a great deal of empirical work and discussion. Although the evidence is not conclusive, the literature suggest that experimenter effects are found not only in the experimental situation (for example, Dusek, 1971; Laszlo and Rosenthal, 1970; Minor, 1970; Wessler, 1969; Rosenthal and Fode, 1963) but also in the school setting (for example, Rosenthal and Jacobson, 1966), the clinical setting (for example, Hersh, 1971; Rosenthal, 1969c; Masling, 1965; Wallach and Strupp, 1960) and the psychological testing situation (for example, Dana and Dana, 1969; Egeland, 1969; Wessler, 1968). These studies support Rosenthal's argument that experimenter effects can occur in a variety of social situations and that by studying experimenter effects in the research setting, we will learn more about social behavior in general (Rosenthal, 1969a, 1966).

Experimenter effects fall into two general categories: 1) non-interactional and 2) interactional. Non-interactional types of experimenter effects operate without affecting the actual responses of the subjects in the research. Interactional experimenter effects are a result of the experimenter's interaction with his subjects and operates by influencing a subject's response.

Most of the empirical work concerning experimenter effects which has been done has examined interactional types of effects, the most

frequently chosen one being experimenter expectancy. For example, most of Rosenthal's work has been devoted to studying the effects due to the experimenter's expectancy or hypothesis concerning the results of his experiment. There has been a lack of attention paid to the non-interactional type, and our research is an attempt to begin to fill this gap. The non-interactional experimenter effect with which we will be concerned is observer bias.

Observer bias is defined as a "tendency to observe the phenomenon" under study "in a manner that differs from the 'true' observation in some consistent fashion" (Simon, 1969). Bias observations are systematic distortions of social "reality." Since we are treating observer bias as a non-interactional experimenter effect, we will limit our discussion to only those observational settings in which the observer has no interpersonal contact with the subjects while they are under observation. We will also attempt to show that observer bias can be explained in part by the process which W. I. Thomas labeled as "the definition of the situation" (Thomas, 1923). We will be particulary interested in Thomas's ideas concerning objective and subjective situational factors.

This research will not only add to our knowledge concerning some of the variables which are associated with the occurrence of observer bias, but more generally to our knowledge of non-interactional experimenter effects. It will also begin to tie the experimenter effects literature to some existing theoretical ideas. The experimenter effects literature, except for an occasional post hoc analysis using Merton's concept of self-fulfilling prophecy (Rosenthal, 1969a, 1966) is lacking in theoretical work aimed at explaining the existence of the various

kinds of experimenter effects. In our review of the experimental effects literature, we found no research which from the onset was based on any theoretical ideas. By using Thomas's ideas about the definition of the situation we hope to fill in the theoretical gap in the experimenter effects literature.

Theoretical Rationale

Although the phenomenon of observer bias and ways of dealing with it are discussed in the literature dealing with research methodology (for example, Hutt and Hutt, 1970; Simon, 1969; Madge, 1965; Goode and Hatt, 1952), not much empirical or theoretical work has been devoted specifically to it. The little empirical work that has focused on observer bias (White, et al., 1970; Cordaro and Ison, 1963) suggest that observer bias can be experimentally produced when prior information concerning the observational situation is given to observers. In both studies, observers were given information concerning the amount of behavior to be expected and their observations were in the direction of these expectations. Although these studies do indicate the existence of observer bias, neither provide us with an explanation for the phenomenon. If we look at some of W. I. Thomas's ideas concerning the concept, definition of the situation, we find such an explanation.

Thomas argues (1937, 1923, 1918) that before an individual can act in a situation, he must first give meaning to the situation in terms of his action orientation, that is, his reason for acting. This is done by the individual selecting, attending to, and combining those elements of the situation which are most relevant to his goal. The synthesis of the relevant aspects or definition of the situation enables the individual

to decide the most appropriate way in which to act in the situation.

In Thomas's conceptualizations, there are both objective and subjective features which can influence an individual's definition of the situation (Thomas, 1923). Objective features are those which have a verifiable existence which a scientist or any other outside individual living in the society would recognize. These include the physical features of the situation and the social norms associated with it (Stebbens, 1967; Thomas and Thomas, 1925). The subjective features of the situation are those aspects which are related to the unique experiences and perspective of the individual. These include his past experiences with similar situations, his expectations concerning the type of behavior found in such a situation and his values and attitudes associated with the situation. In a sense, the subjective features of a situation exist only in the mind of the particular individual. Because of these subjective features, different definitions of the situation may result among people in the same situation. Widely different behavior can therefore result since one's behavior is closely related to one's definition of the situation (Stebbens, 1967; Volkart, 1951).

In other words, individuals will act on the basis of a definition constructed from both objective and subjective situational features, but, it is possible that the subjective features may be the major influence in the definition of the situation. The individual will behave as if the subjective features were tangible, that is, he will act on the basis of the definition constructed from those subjective features. "If men define situations as real, they are real in their consequences" (Thomas and Thomas, 1925). It is our contention that this is what happens when

observer bias occurs.

Observer bias is an example of an instance in which subjective factors play a large part in the formulation of a definition of a situation. An observer is told to watch and record data about a particular type of behavior concerning the subjects under study. This is his action orientation. However, before an observer can act, that is watch and record, he must first define or give meaning to the situation under observation. This may include, for example, attributing certain types of characteristics to the subjects under study because of his past experiences with them, his values or attitudes towards them, etc. These characteristics may not actually exist, but they nonetheless become part of an observer's definition of the situation because he thinks they exist. Because his definition of the situation influences his watching and recording, the data resulting from his observations will be biased or distorted, and the distortion will be in line with his definition of the situation. It could be argued that the researchers who have been concerned with experimentally manipulating observer bias (White, et al., 1970; Cordaro and Ison, 1963) increased the probability that subjective factors would play a large role in the observer's definition of the situation because they provided them with expectations concerning what they were about to observe.

But what about the objective situational factors in the observational situation? They too can play a part in the construction of definitions of situations. Most of the time situations are defined on the basis of objective features. If this were not the case, any type of group behavior would be impossible. Why do they not counteract the distorting

effects of the subjective features in an observer bias situation? We would argue that when subjective factors play a large part in the construction of definition of a situation which results in observer bias it is because the objective situational factors are unclear and ambiguous. Thus, if the objective factors of a situation are clear and easily recognizable, an observer's definition will not be under the influence of subjective factors to the same extent, and the probability that his observations will be biased will be less.

Although Thomas does not specifically discuss when subjective factors will most likely predominate in the formulation of definitions of situations, he does argue that on the whole the definition of the situation is "equivalent to the determination of the vague" (Thomas, 1923). It seems a logical extension of this idea that if objective factors are ambiguous or not strong enough to guide the individual in attributing meaning to the situation, the role of subjective factors will become important and may even play a larger part in the definition process.

There is support in the social science literature for the contention that the degree to which a situation is ambiguous will affect how an individual will act in a situation. For example, one's perception of an object is modified according to how ambiguous the object is (Reese and Ford, 1962; Bruner, et al., 1952; Braley, 1933; Carmichael, et al., 1932). The probability that a subject will accept a suggestion or behavioral cues from an experimenter is associated with the ambiguity of the task which the subject is to perform (Patel and Gorden, 1960; Coffin, 1941). There is also evidence from the conformity literature (Hoving, et al., 1969; Crutchfield, 1955) that ambiguity plays a role. Looking at the experimenter effects literature, we find

additional evidence that ambiguity will affect behavior (Felton, 1971; Weiss, 1969). This research suggests that subjects are more likely to act in accordance with an experimenter's hypothesis when the situation is ambiguous.

Independent and Dependent Variables

We decided to test the effects which subjective situational factors and situational ambiguity have on the occurence of observer bias. It is our assumption that observer bias is a behavioral outcome of the definition of the situation process. We feel that observer bias is an instance when subjective features play a large part in the definition of the situation process. However, this influence is modified by the clarity of the objective features of the situation.

Because subjective situational features include many aspects of a situation, it would be impossible to manipulate and test the effects of all of them in terms of observer bias. Some of the previous research on observer bias (White et al., 1970; Cordaro and Ison, 1963) provided the observers with information concerning the amount of behavior to be expected from the subjects. Since expectations concerning the type of behavior associated with a situation is a subjective situational factor, we decided to concentrate our efforts on a similar kind of expectation. We went a step further and linked the expectation to a particular category of people or group since we felt this would be more akin to an actual observational situation. We attempted to manipulate the observers' expectations concerning the behavior of a particular group in order to determine whether this type of expectation could make some observers more prone to observer bias.

Our first independent variable, expectations concerning the behavior of a particular group, is nominally defined as anticipation that a particular kind of behavior will more likely be associated with one group than another.

Our second independent variable is situational ambiguity. This variable is nominally defined as the extent to which a situation allows for more than one interpretation, that is, it has two or more possible meanings because the objective features of the situation are not clear or readily apparent. It is our contention that situational ambiguity can modify the relationship between subjective situational features, specifically expectations concerning the behavior of a particular group, and observer bias. If objective features of a situation are clear or easily recognized, that is, unambiguous, an observer's definition will not be under the influence of subjective features to the same extent. The probability that his observations will be biased will be less.

Methodology

The laboratory setting consisted of 62 observers watching a video tape of nursery school children at play. The observers were to record any instances of aggression which they saw on the video tape and to note these instances next to the appropriate category on a rating sheet. Aggressive behavior was the focus of observation.

The experimental room contained one television set with a video recorder, one chair for the experimenter which was adjacent to the television and the recorder and two to six chairs for the observers. These latter chairs directly faced the television and the recorder. When the observers were seated they faced the experimenter's left side. The

chairs were positioned in this way in order to avoid direct eye contact with the experimenter during the experimental session. The experimenter remained in the experimental room throughout the session since she told the observers when each taped sequence was over so that they could start a new rating sheet. A clean rating sheet was used for each taped sequence.

Treatment

Observers' expectations about the behavior of a particular group were manipulated by presenting them with information concerning the social class status of the children in the videotapes before the tapes were viewed. One group of observers was told the children in the tapes were middle class and because middle class parents are competitive and want their children to be successful in later life, they encourage aggressive behavior in them. As a result of the social class status of the children, the observers were told to expect a lot of aggression in the videotape. Another group of observers were told that the children in the tape were lower class. Lower class parents encourage aggressive behavior in their children so that they will be able to endure the harsh living conditions that they must face. Like the previous group, this group was also told to expect a lot of aggressive behavior because of the relationship between lower class status and aggressiveness. A third group of observers was told nothing about the class position of the children nor were they given any expectations concerning the amount of aggressive behavior that they would see.

Situational ambiguity was manipulated through the use of two different videotapes. One consisted of eight sequences in which the

children exhibited behavior which was clearly aggressive in nature. The other tape consisted of eleven sequences, two of which were aggresssive in nature and which also appeared in Tape I. The other sequences in Tape II were not clear as to their aggressive nature.

Tape I was considered to be a non-ambiguous situation while Tape II was considered to be an ambiguous situation. Both tapes were 22 minutes long and were of the same preschool children (ages 4 and 5) at play in a nursery school setting. The behavior of the children was spontaneous and we made no attempt while taping the children to get them to act in any particular way.

Experimental Groups

Sixty-two observers were randomly assigned to one of six groups. The groups were distinguished according to the type of tape the observers watched and according to what kind of expectation they received regarding the social class of the children in the tapes. An attempt was made to evenly divide the groups according to sex of observer. Due to scheduling problems, two of the groups were not evenly divided by sex, however. Both of these groups contained six males and five females. In the rest of this paper, we will use the following symbols to refer to the six groups:

1) MCN -- group which was told the children were middle class and also watched the non-ambiguous tape, that is the one with a large amount of clear aggression (total N for this group was 10, five males and five females).
2) MCA -- group which was told the children were middle class and also watched the ambiguous tape, that is the one with a small amount of clear aggression (total N for this group was

11, six males and five females).

3) LCN -- group which was told that the children were lower class and who watched the non-ambiguous tape, the clearly aggressive one (total N for this group was 10, five males and five females).

4) LCA -- group which was told the children were lower class and who watched the ambiguous tape, the one with a small amount of clear aggression (total N for this group was 10, five males and five females).

5) CON -- group which was told nothing about the social class of the children and who also watched the non-ambiguous tape, the one with a large amount of clear aggression (total N for this group was 11, six males and five females).

6) COA -- group which was told nothing about the social class of the children and who also watched the ambiguous tape, the one with a small amount of clear aggression (total N for this group was 10, five males and five females).

Hypotheses

The following are the hypotheses that this research evaluated:

Hypothesis Ia: Observers holding expectations that middle class children are more aggressive than lower class children will record more aggression than observers not holding any expectation about the social class of the children observed.

Hypothesis Ib: Observers holding expectations that lower class children are more aggressive than middle class children will record more aggression than observers not holding any

expectations about the social class of the children observed.

Hypothesis IIa: In the presence of the ambiguous videotape, the effects of observer expectations linking middle class children with aggression will be more pronounced than in the presence of the non-ambiguous videotape.

Hypothesis IIb: In the presence of the ambiguous videotape, the effect of observer expectations linking lower class children with aggression will be more pronounced than in the presence of the non-ambiguous videotape.

Sample

The sample used in the experiment consisted of 62 undergraduate students (32 males and 30 females) who were enrolled in introductory sociology courses in a large midwestern university during the months of January through May, 1973. All were volunteers and they had been recruited for the experimenter by the instructors who taught the courses in which the subjects were enrolled. The average age of the observers was 19.95 years and they were mainly freshmen and sophomores.

Procedure

Each observer was contacted by the experimenter by telephone and an appointment was made to view the videotape. Groups of two to six subjects were at each experimental session depending on how many observers in a particular group were able to come at the particular time of the session. Inspection of the means suggested that the size of the group did not affect the observers' ratings of the children.

All of the observers entered the experimental room at the same time accompanied by the experimenter. They found an instruction sheet and a set of coding sheets on their chairs face down. After everyone was seated, the experimenter read the instructions aloud to the observers. They were asked to follow along; all of the groups read the following instructions:

> Before we begin, I'd like to thank you for coming today. As you know, I am working on my Master's thesis. I am trying to see if previous findings on children's aggression hold today.
>
> I would like you to watch a film of four and five year old children playing and then rate them on aggression using the rating sheet which I have given you. The film is divided into several sequences, and I'd like you to use a separate sheet for each sequence. I will tell you when each sequence is over so you will know when to start a new rating sheet.
>
> Please put a check in the appropriate box whenever you see a child doing what the category describes. Be sure to include all behavior even that which occurs during play. The categories also take verbal statements into account, so don't forget to include aggressive speech.

Before showing the videotape of the children, the observers were shown a tape of five sequences which portrayed policemen interacting with citizens. The tape was approximately seven minutes long and it was intended as a practice in order to familiarize the observers with the

categories on the rating sheets. The rating sheet was composed of the following categories:

1. Tells a child what to do
2. Holds or restrains a child
3. Shoves child and/or object
4. Gets in the way of another child
5. Kicks child and/or object
6. Takes something away from another child
7. Hits child and/or object
8. Throws object
9. Threatens a child physically and/or verbally
10. Chases another child

After the practice tape was over the questions from the observers answered, the information about the socioeconomic status of the children in the video tape was given to the appropriate groups (MCA, MCN, LCA, LCN). This information concerned the amount of aggression to be expected and information about the social class of the children. As with the initial set of instructions, this information was read aloud by the experimenter while the observers followed along. After the descriptions were read, the observers were reminded to record all instances of aggressive behavior and then the videotape of the children was shown. The above procedure differed in the case of the two control groups (COA and CON) by the omission of the reading of a description concerning the aggressiveness and social class of the children.

After the videotape was completed, each observer was asked to fill out a short questionnaire which was aimed at getting, for example, information about his experience with children, knowledge about the

relationship between social class and aggression and some data about his family of orientation. A debriefing session followed in which the purpose of the experiment was explained. The entire experimental session, including the filling out of the questionnaire and debriefing, lasted approximately one hour.

Results

We utilized analysis of variance as our main statistical tool. A weighted means analysis was used since we had unequal cell frequencies (Winer, 1971).[1]

A three-way analysis of variance was run in order to determine the effects expectations about the aggressive behavior of middle or lower class children and situational ambiguity have on observer bias. The analysis was also run in order to determine whether gender of observer would affect any relationship between the independent and dependent variables. The analysis of variance revealed main effects due to the expectations variable and due to situational ambiguity. Both of these effects were significant at the .05 level ($F = 4.13$, df 2/50; $F = 7.17$, df 1/50 for expectations about class-related aggression and situational ambiguity, respectively). The predicted interaction effect (Hypotheses IIa and IIb) between expectations concerning class-related aggression and situational ambiguity failed to reach significance. There were no effects, either main or interaction, due to gender suggesting this variable did not affect the relationships predicted by our hypotheses.

(TABLE I about here.)

The main effect for the expectations variable suggests that such

TABLE I

Analysis of Variance for Expectations Concerning Lower-Middle Class Aggression, Situational Ambiguity and Sex of Observer

Source	df	MS	F
Expectation, Ambiguity, Sex	2	71.11	0.46
Expectation, Ambiguity	2	35.25	0.23
Expectation, Sex	2	75.83	0.49
Expectation	2	638.05	4.13*
Ambiguity, Sex	1	162.92	1.06
Ambiguity	1	1107.16	7.17*
Sex	1	87.80	0.57
Experimental Error	50	154.33	---

* Significant at 0.05 level

expectations are associated with observer bias. However, before a conclusion as to whether this data supports Hypotheses Ia and Ib is reached, we must examine the direction of this bias. In order to do this, the marginal means representing this effect must be compared. When this is done, we find an interesting pattern. All observers (groups MCA, MGN, LCA, LCN) who were explicitly given expectations concerning the social class membership of the children in the film were also told to expect a great deal of aggression. The resulting means should have been higher than those from the observers who had not been given any expectations about the behavior of the children in the film (groups COA and CON). If we look at the means, we find that those observers who thought they were watching middle class children did see more aggression ($\bar{X}$ =40.43) than the control groups ($\bar{X}$ =34.43) but those who thought they were watching lower class children saw less aggression ($\bar{X}$ =29.50) than the control groups. The data seem to confirm Hypothesis Ia but Hypothesis Ib is not supported by the data. Although the observers holding expectations linking lower class children and aggressive behavior did seem to bias their observations when compared to the control groups, they did so in the opposite direction of their expectations.

In order to determine which comparisons were contributing to the overall main effect due to the expectations variable, the marginal means were also subjected to a posteriori analysis. Scheffé tests and Fisher's least significant difference (lsd) approach were used (Winer, 1971). The Scheffé tests revealed no significant comparisons, but this may have been due to the conservative nature of this test (Winer, 1971). On the other hand, the Fisher's least significant difference approach

indicated that the comparison between the means for those observers who thought they were watching middle class children and those who thought they were watching lower class children was significantly different at the .01 level. This finding gives additional weight to the conclusion that observer bias can result if observers hold expectations concerning the behavior of subjects they are watching. However, the bias may not be in the direction of the expectation. As we said before, only Hypothesis Ia is supported by the data.

None of the other hypotheses was supported by the data. The significant main effects due to situational ambiguity only suggests that the two films were significantly different in terms of clearly aggressive content. The overall mean for the non-ambiguous film was greater than the mean for the ambiguous film (39.1 and 30.65, respectively). This indicates that the tapes were two different types of observational situations but in order for our hypotheses (IIa and IIb) dealing with situational ambiguity to have been supported, an interaction effect would have been a necessary result.

We subjected our data to further analysis in order to determine any effects due to a third variable. As we said, gender was originally conceived in this way, but our original analysis indicated that gender did not act as a modifying variable or contribute to observer bias.

The next variable which was examined for additional effects concerned whether the observers had any experience with children prior to participation in the experiment. Again, a three-way analysis of variance was done and it included this experience variable, the expectation variable and the situational ambiguity variable. A significant (.05 level) main

effect due to experience did result ($F = 5.01$, df 1/50) but none of the interaction effects were significant.[2] These results are questionable, however, since the variances were found to be non-homogenous. Therefore, a t test was done in order to see if the marginal means associated with the effect due to experience with children were significantly different (marginal means were $\bar{X} = 30.56$ for those without experience; $\bar{X} = 37.41$ for those with experience). The t test was significant at the .05 level ($t = 2.01$, df 60) indicating that observers with experience saw more aggression than those without experience.

The last variable which was examined was concerned with the extent to which the observers guessed the true nature of the experiment. Although only one observer was able to determine the exact goal of the research, eighteen other observers were suspicious that they were under study and not the children in the tape as they had been told. Accordingly, the observers were divided into two groups, those who had no idea of the actual goal of the experiment ($N = 40$) and those who guessed the true nature or who were suspicious that they were actually being studied ($N = 19$).

Another three-way analysis of variance was run. The data indicate an interaction effect between situational ambiguity and the guess variable.

(TABLE II about here.)

If we look at the relevant marginal means, we find that when observers exposed to the ambiguous tape were suspicious about the actual goals of the experiment, they recorded approximately as much aggression as those observers exposed to the unambiguous videotape. In other words, suspicious

TABLE II

Analysis of Variance for Expectations Concerning Lower-Middle Class Aggression, Situational Ambiguity, Guess Nature of Experiment

Source	df	MS	F
Expectation, Ambiguity, Guess	2	37.66	0.25
Expectation, Ambiguity	2	37.26	0.25
Expectation, Guess	2	11.50	0.08
Expectation	2	604.20	3.99*
Ambiguity, Guess	1	671.71	4.43*
Ambiguity	1	843.60	5.57*
Guess	1	245.22	1.62
Experimental Error	47	151.46	----

* Significant at the 0.05 level

observers seemed more apt to record aggression in the presence of situational ambiguity than unsuspicious observers. A Scheffé posteriori test supports this conclusion ($p < .05$). There is a complimentary trend

(TABLE III about here.)

throughout the data. It indicates that observers suspicious of the true nature of the experiment recorded more aggression than unsuspicious observers regardless of situational ambiguity.

(TABLES IVa-c about here).

Discussion and Conclusions

As stated before, the data does confirm Hypothesis Ia which states that observers holding expectations that middle class children are more aggressive will record more aggression than observers not holding any expectation about the social class of the children observed. By so doing, it also lends support to Thomas's idea that subjective situational factors do play a role in the definition of the situation process.

It also lends partial support to the general hypothesis which predicts that observers holding expectations concerning the behavior of a particular group will be more likely to bias their data in line with these expectations than observers not holding such an expectation. This hypothesis is only partially supported since the data did not support Hypothesis Ib. Although the data pertaining to Hypothesis Ib was biased, the bias was in the opposite direction to the observers' expectations. Observers holding expectations linking aggressive behavior to lower class status

TABLE III

Marginal Means for Situational Ambiguity,

Guess Nature of Experiment

Situational Ambiguity	Guess	
	No	Yes
Non-ambiguous	40.32 (N =19)	37.27 (N =11)
Ambiguous	28.10 (N =21)	39.63 (N =8)

TABLES IVa-c

Means Showing Effect Due to Guess Nature of the Experiment

TABLE IVa

Means for Expectations Concerning Lower-Middle Class Aggression, Situational Ambiguity, Guess Nature of Experiment

	Situational Ambiguity			
Guess	Non-ambiguous		Ambiguous	
Expectation	NO	YES	NO	YES
Middle Class	45.13 (N =8)	50.50 (N =2)	33.33 (N =6)	43.00 (N =4)
Lower Class	33.75 (N =4)	34.00 (N =5)	22.71 (N =7)	31.00 (N =2)
Control	38.57 (N =7)	34.75 (N =4)	28.88 (N =8)	41.50 (N =2)

TABLE IVb

Marginal Means for Expectations Concerning Lower-Middle Class Aggression, Guess Nature of Experiment

Expectations	Guess	
	NO	YES
Middle Class	40.07 (N =14)	45.50 (N =6)
Lower Class	26.73 (N =11)	33.14 (N =7)
Control	33.40 (N =15)	37.00 (N =6)

TABLE IVc

Marginal Means for Guess Nature of the Experiment

Guess	Mean
No	33.90 (N =40)
Yes	38.26 (N =19)

saw less aggression than observers holding no expectations concerning the children's social class status. These data may be the result of a negative reaction on the part of the observers who received the expectation regarding the lower class children. Some of the observers who received this expectation indicated during the debriefing period that they found the description concerning lower class aggressive behavior to be offensive and may have reacted to it by recording a smaller amount of aggressive behavior than they actually saw. This explanation is only a speculation since we have no substantial data with which to support such a conclusion. More detailed questions regarding the observers' feelings and their acceptance of the experimental expectations could have helped settle this issue.

Another possible explanation for the reverse biasing associated with the lower class expectation may be gained from some of the socialization literature concerned with differential parent behavior due to sex of child (Meyer and Sobieszek, 1972; Rothbart and Maccoby, 1966; Bronfenbrenner, 1961). Rothbart and Maccoby (1966) and Bronfenbrenner (1961) report that parents are more punitive toward children of the same sex and more affectionate and permissive toward children of the opposite sex. In other words, parents seem to have a lower tolerance for certain kinds of behavior when they are exhibited by same-sex children.

Meyer and Sobieszek (1972) explain this finding by suggesting that this lower tolerance may result from the ability of parents to apply more complete frames of reference to same-sex children. Adults are better able to define and respond meaningfully to the behavior of same-sex children, and as a result are less tolerant of the behavior of these

children. This conclusion is based on data obtained from adults asked to rate two children, described part of the time as male and the remainder of the time as female, on a number of adjectives. The adults attributed the most qualities to same sex children (significant at the .05 level). Our data may indicate that sex is not the only characteristic which enables adults to act in this way. Social class membership may be another.

Most of our observers were from middle class origins. Extrapolating from Meyer and Sobieszek's data, we would argue that becasue of the middle class origins of most of our observers, they were able to make more sense out of and relate to the behavior of the children described as middle class than the behavior of the children described as lower class. Accordingly, they recorded more behavior for those children described as middle class. The difference in the amount of aggression which was recorded may have been significant because it was aggression which was the object of the study; aggressive behavior may have negative connotations in our society. Again this explanation is only speculation, but it does tie our data to some of the socialization literature and, as such, is worthy of future research.

Our failure to confirm Hypotheses IIa and IIb concerning the interaction effects between the expectation and situational variables may have been due to our manipulation of the latter variable, situational ambiguity. Although the significant main effect due to this variable suggests that we had two distinct videotapes, both tapes may have had clearly objective situational factors in regard to how difficult it was to discern aggressive behavior. In constructing Videotape II,

we sought examples of behavior which could be interpreted as aggressive but not necessarily so. Loud talking, the articulation of which was not clear, a child waving his arms in front of another are two examples of the type of behavior which we included in Videotape II. However, it may have been that these kinds of behavior were too clearly nonaggressive and our observers interpreted them accordingly. Perhaps, if we had used the same videotape for both ambiguity conditions but instead manipulated the clarity or focus of the picture, we may have had a better measure of situational ambiguity. Of course our failure to obtain any significant interaction effects between the expectation and situational ambiguity variables may suggest that the relationship between subjective situational factors and observer bias is not affected by objective situational factors. However, given our reservations regarding the manipulation of the situational ambiguity variable, further research regarding this variable is needed before any definite conclusion can be drawn.

Further research into the role that prior experience with subjects similar to those under observation plays in the occurrence of observer bias could also be done. Although the main effect due to experience with children was suspect because of lack of equal variances, the t test indicates that this variable may affect an observer's actions in that he may be more apt to attribute and record more instances of behavior than observers who have not had experience with similar kinds of subjects. This conclusion is similar to the one reached by Meyer and Sobieszek (1972) concerning adults' interpretation of sex-typed behavior in children. Thus, experience may contribute to observer bias and future

researchers in this area could look at this variable in more detail. Experience may play a role because it too may function as a subjective situational factor.

The data regarding whether the observers guessed or were suspicious about the true nature of the experiment indicates what much of the experimenter effects literature argues; subjects will act in accordance with what they believe to be the experimenter's hypothesis. The data suggest a trend that observers, regardless of the experimental conditions, recorded more aggression when they guessed or were suspicious of the actual goals of the experiment than when they were not suspicious. This was especially true when the objective situational factors were unclear or ambiguous. Although this latter finding must be interpreted with caution given our reservations concerning the manipulation of situational ambiguity, it does support some of the experimenter effects literature concerned with ambiguity (Felton, 1971; Weiss, 1969). It would seem that even research aimed at specifically producing experimenter effects could be affected by UNINTENDED experimenter effects.

Looking at this research in terms of its goals, some of the data supporting Hypothesis Ia suggest that looking at observer bias in terms of W. I. Thomas's ideas concerning the definition of the situation may be productive. It begins to link the experimenter effects literature to some already existing theoretical work. Subjective situational factors in the form of an expectation concerning the behavior of a particular group do seem related to the incidence of observer bias. However, other variables may modify this relationship. In explaining the failure to confirm Hypothesis Ib, we mentioned that common characteristics between

observers and subjects and/or factors idiosyncratic to the experimental conditions to which they were exposed (possible negative reaction to the expectations concerning lower class children, in this instance) could be two such possible variables. Of course, Hypotheses IIa and IIb were specifically aimed at examining another such variable, but the data failed to confirm the prediction that situational ambiguity would enhance the relationship between subjective situational factors and observer bias. On the other hand, if we consider the variable regarding whether the observers guessed the actual goal of the experiment as another subjective situational factor, the interaction effect between it and situational ambiguity would suggest that investigation of the role situational ambiguity plays in producing observer bias and in the definition of the situation process is still warranted.

Our data suggests a line of action for those doing observational research and who are concerned with observer bias. It would seem wise for experimenters doing observational research to attempt to ascertain whether their observers hold any beliefs, expectations or experience related to the type of subject under observation. These types of data should then be taken into account when training the observers and in the final data analysis since, as our data suggest, they could affect the observers' definition of the situation and, in turn, their observations.

Footnotes

[1] Hartley's F max test for homogeneity of variances was used to test whether the assumption concerning equal variances due to experimental error within each treatment population was met. Unless otherwise stated, the data met this assumption at the .05 and/or .01 level (Winer, 1971).

[2] Unless otherwise stated, the main effects due to the expectations variable and the situational ambiguity variable remained for all additional three-way analyses of variance.

References

Braly, K. W.

1933 "The influence of past experience in the visual apprehension of perception." Journal of Experimental Psychology 16: 613-43.

Bronfenbrenner, U.

1961 "Some familial antecedents of responsibility and leadership in adolescents." Pp. 239-71 in L. P. Petrillo and B. M. Bass (eds.), Leadership and Interpersonal Behavior. New York: Holt, Rinehart and Winston.

Bruner, J. S., R. D. Busiek and A. L. Minturn

1952 "Assimilation in the immediate reproduction of visually perceived figures." Journal of Experimental Psychology 44: 151-55.

Carmichael, L., H. P. Hogan and A. A. Walter

1932 "An experimental study of the effect of language on the reproduction of visually perceived figures." Journal of Experimental Psychology 15:73-86.

Coffin, T. E.

1941 "Some conditions of suggestion and suggestibility: A study of certain attitudinal and situational factors influencing the process of suggestion." Psychological Monographs 53 (No. 4, Whole No. 241).

Cordaro, L. and J. R. Ison

1963 "Psychology of the scientist: X-observer bias in classical conditioning of the planarian." Psychological Reports 13:

787-89.

Crutchfield, R. S.

1955 "Conformity and character." American Psychologist 10: 191-98.

Dana, J. M. and W. H. Dana

1969 "Experimenter bias and the WAIS." Perceptual and Motor Skills 28:694.

Dusek, J. B.

1971 "Experimenter bias in the performance of children at a simple motor task." Developmental Psychology 4:55-62.

Egeland, B.

1969 "Examiner expectancy effect on the scoring of the WISC." 6:313-15.

Felton, G. S.

1971 "The experimenter expectancy effect examined as a function of task ambiguity and internal external control." Journal of Experimental Research in Personality 5:286-94.

Goode, W. J. and R. K. Hatt

1952 Methods in Social Research. New York: McGraw-Hill Book Company.

Hersh, J. B.

1972 "Effects of referral information on testers." Journal of Consulting and Clinical Psychology 37:116-22.

Hoving, K. L., N. Hamm and P. Galvin

1969 "Social influence as a function of stimulous ambiguity at three age levels." Developmental Psychology 1:631-36.

Hutt, S. J. and C. Hutt

1970 Direct Observation and Measurement of Behavior. Springfield: C. C. Thomas.

Laszlo, J. P. and R. Rosenthal

1970 "Subject dogmatism, experimenter status and experimenter expectancy effects." Personality: An International Journal 1:11-23.

Madge, J.

1965 The Tools of Social Science. Garden City: Doubleday and Company, Inc.

Masling, J.

1965 "Differential indoctrination of examiner and Rorshach response." Journal of Consulting Psychology 29:195-201.

Meyer, J. W. and B. I. Sobieszek

1972 "Effect of a child's sex on adult interpretations of its behavior." Developmental Psychology 6:42-48.

Minor, M. W.

1970 "Experimenter expectancy effect as a function of evaluation apprehension." Journal of Personality and Social Psychology 15:326-32.

Patel, A. and J. E. Gordon

1960 "Some personal and situational determinants of yielding to influence." Journal of Abnormal and Social Psychology 61:411-18.

Reese, H. W. and L. H. Ford, Jr.

1962 "Expectancy and perception of an ambiguous figure in preschool children." Journal of Verbal Learning and Verbal Behavior 1:

188-91.

Rosenthal, R.

1966 Experimenter Effects in Behavioral Research. New York: Appleton-Century Crofts.

1969a "Interpersonal expectations: effects of the experimenter's hypothesis." Pp. 182-277 in R. Rosenthal and R. L. Rosnow (eds.), Artifact in Behavioral Research. New York: Academic Press.

1969b "Task variations in studies of experimenter expectancy effects." Perceptual and Motor Skills 29:9-10.

1969c "Unintended effects of the clinician in clinical interaction: a taxonomy and a review of clinical expectancy effects." Australian Journal of Psychology 21:1-20.

Rosenthal, R., K. L. Fode, C. J. Friedman and L. L. Vikan

1960 "Subjects' perception of their experimenter under conditions of experimenter bias." Perceptual and Motor Skills 11: 325-331.

Rosenthal, R. and L. Jacobson

1966 "Teachers' expectancies: determinants of the pupils' I.Q. gains." Psychological Reports 19:115-18.

Rothbart, M. K. and E. E. Maccoby

1966 "Parents' differential reactions to sons and daughters." Journal of Personality and Social Psychology 4:237-43.

Simon, J. L.

1969 Basic Research Methods in Social Science: The Art of Empirical Investigation. New York: Random House.

Stebbens, R.

1967 "A theory of the definition of the situation." Canadian Review of Sociology and Anthropology 4:148-64.

1969 "Studying the definition of the situation: theory and field research strategies." Canadian Review of Sociology and Anthropology 6:193-211.

1971 "The meaning of disorderly behavior: teacher definitions of a classroom situation." Sociology of Education 44:217-36.

Thomas, W. I.

1923 The Unadjusted Girl. Boston: Little, Brown and Company.

1937 Primitive Behavior. New York: McGraw-Hill Book Company.

Thomas, W. I. and D. S. Thomas

1925 The Child in America. New York: Alfred A. Knopf.

Thomas, W. I. and F. Znaniecki

1918 The Polish Peasant in Europe and America. Volume 1. Chicago: The University of Chicago Press.

Volkart, Edmund

1951 "Introduction: social behavior and the defined stiuation." Pp. 1-32 in E. H. Volkart (ed.), Social Behavior and Personality: Contributions of W. I. Thomas to Theory and Social Research. New York: Social Science Research Council.

Wallach, M. S. and H. H. Strupp

1960 "Psychotherapists' clinical judgments and attitudes towards patients." Journal of Consulting Psychology 24:316-23.

Weiss, L. R.

1969 "Effects of subject, experimenter and task variables in compliance with experimenter's expectations." Journal of Projective Techniques and Personality Assessment 33:247-56.

Wessler, R. L.

1968 "Experimenter expectancy effects in psycho-motor performance." Perceptual and Motor Skills 26:911-17.

1969 "Experimenter expectancy effects in three dissimilar tasks." Journal of Psychology 71:63-67.

White, J. H., R. R. Hegarty and N. A. Beasley

1970 "Eye contact and observer bias: a research note." British Journal of Psychology 61:271-273.